1853MNRAS..14R..13C

as a star of the ninth magnitude, and evidently belongs to the group between *Mars* and *Jupiter.*

" By micrometrical comparisons with No. 6361 of Lalande's Catalogue, the following positions were deduced :—

M.T. Regent's Park.		App. R.A.	App. Decl.
	h m s	h m s	° ′ ″
Nov. 8	at 8 2 46·6	3 19 33·50	+16 4 32·3
	— 8 34 1·2	32·17	28·4
	— 11 21 58·4	24·93	11·4
9	— 9 2 31·1	3 18 30·93	+16 1 18·0

" The place of Lalande's star was taken from a Greenwich observation on November 9th, with which the Astronomer Royal kindly furnished me.

" *Mr. Bishop's Observatory, Nov.* 11."

This planet has received the name of *Euterpe.*

First Elements of Euterpe.

Computed from the Observations of Regent's Park, Nov. 8, Durham, Nov. 12 and Nov. 17, 1853, by Professor Chevallier and Mr. George Rümker.

Epoch, 1853, Nov. 20·0, Greenwich Mean Time.

	° ′ ″	
M	326 24 19·4	
π	100 42 2·0	Mean Equinox,
λ	91 3 45·6	Jan. 0, 1854.
i	1 45 47·9	
φ	10 23 47·8	
Log *a*	0·385910	
Log μ	2·971142	

These elements represent the middle observation with an error (computed—observed) of −0″·1 in Longitude, and 0″·0 in Latitude.

Professor Chevallier has also caused to be printed an Ephemeris of the planet based on the foregoing elements, and extending from Nov. 20 to Dec. 31. Any person may obtain a copy of this Ephemeris by applying at the apartments of the Society, to which a supply of copies has been liberally forwarded by Professor Chevallier for distribution.

Notice respecting his Observatory at Red Hill.

By R. C. Carrington, Esq.

" It has been known to several of the members of the Society for some time past, that I have been preparing to resume my former occupation as an observer in a different part of the country, and with the intention of following a different line of observation to that which formed my duty at Durham. Many months were necessarily

1853MNRAS..14R..13C

taken up in finding a site suitable for a meridian observatory, in building, in providing instruments, and in getting into order again. As I have now been at work for three or four months, and can produce some results of observation, I think the time has come for giving some notice to the Society of the class of work I am engaged in.

"To be as brief as possible, I have planned my observatory entirely with reference to zone-observation on the meridian, and the formation of accurate maps of portions of the heavens. Any other subjects taken up will be temporary or subservient to the above. One such subject will probably be the positions of spots on the sun, if not found to interfere prejudicially with our time for reduction.

"In the execution of this plan I propose to establish one or two distinctions between any catalogue I may live to produce and those which we have already in existence. In the first place, I intend to take such measures as shall effectually guard against the omission of any star included within what is now called the tenth magnitude; secondly, that the zones of observation shall be incorporated into catalogue-zones of 9° extent in N.P.D., reduced to mean places of an epoch common to the zone, in which every star, to the tenth magnitude inclusive, within the limits, will have its reference number; and thirdly, that each star shall be sufficiently often observed, or otherwise checked, that no errors of whole minutes or graduations shall remain to render its present existence or future identity doubtful. With respect to the maps, I propose that while the scale shall be sufficiently large to enable configurations to be satisfactorily represented, the size of the maps themselves shall not exceed what is found convenient to hold in the hand while comparing with the telescope, and further, that the places of all nebulæ mistakable for comets shall be plainly indicated. To the above it will be my endeavour to add the searching out and approximate measurement of all multiple stars that have hitherto escaped notice, and the determination of the magnitude of each star by some more accurate standard than the unaided judgment.

"It is, I conceive, only by an united system of cataloguing and mapping that a faithful history of the heavens of our times can be transmitted, by which alone those changes can be detected, which will hereafter form new subjects of inquiry.

"It may be only my private opinion, but I consider that with the excellent catalogues of Bessel and Argelander, now so accessible, any future author of a catalogue pretending to the character of a survey would be doing less than the progress of astronomy now demands, who should not bind himself to some such rules as the above.

"The portion of the heavens to which my attention is now, and will be for some time, entirely confined, is the region within 9° of the north pole. I estimate that, to observe, reduce, and map the stars therein contained, will occupy me from two to three years, taking into account the climate.

1853MNRAS..14R..13C

"My present instruments are a transit-circle and a small equatoreal, constructed by Mr. Simms, who undertook both the optical and mechanical part, and who has not been unmindful of his well-earned reputation. The transit-circle has 5 inches aperture, $5\frac{1}{2}$ feet focal length, 5 feet axis, two circles of 40 inches diameter, the graduated one being divided in gold on a bevelled face, and read by four microscopes, arranged in a cone, as at Greenwich. There is a counterpoise apparatus by which the residual pressure is reduced to about 15 lbs. on each bearing. There are two fixed collimators of 30 inches focal length. The axis and circles are of gun-metal, the telescope cones of hammered brass. The piers contain about 10 tons of Caen stone, resting on a thick slab of York flag-stone, laid on a considerable mass of concrete,—arrangements which I superintended personally throughout. The building is so planned that the transit-room is bounded on both sides by occupied rooms, in which the fire-places are removed to the opposite sides: the party walls are of brick, 12 inches thick: the north and south walls are of stone, 14 inches thick, and *without windows*. The level error was $0''\cdot7$ on Aug. 1st, at starting, and $1''\cdot8$ on Nov. 1st, the change having been very gradual and pretty constantly watched: the meridian error has varied a very little more in amount. The only objection to the abolishment of windows that I have traced is, that it appears to favour the generation of spiders. The equatoreal has $4\frac{1}{2}$ inches aperture and $4^{\text{ft.}}\ 4^{\text{in.}}$ focal length. I usually employ a power of 28 and a field of a degree and a half: it is suited for rough zoning, sweeping, mapping, and screen-projection. It is German-mounted on a cast-iron stand of my own design, which I think possesses some advantages. The clock I now have was made by the late H. Appleton, of 30 Southampton Row, Russell Square: it has the dead-beat escapement; its rate is excellent, but the beat dull, and I have still some difficulty in this respect to get over before I can set at defiance the sounds of a busy neighbourhood.

"At the next meeting of the Society I hope to lay on the table printed copies of nine maps, containing the results (above alluded to) of a first preliminary exploration of the region I have named, and which was brought to a close within the present week. The scale is 1·5 inches to the degree, and 4268 stars have been laid down, the mapping having been purposely carried beyond the proposed limit for reasons which I will then explain.

"The approximate position of the observatory is

$51^{\circ}\ 14'\ 25''\cdot25$ North
$0^{\text{m}}\ 41^{\text{s}}\cdot25$ West of Greenwich,

which is sufficiently accurate for my present purpose, but open to amendment.

"Mr. G. H. Simmonds, who was with me for some months at Durham, is my assistant at Red Hill.

"The post-town for Red Hill letters is Reigate, Surrey."